

REMARKS

Upon entry of the present reply, claims 1-15 will remain pending.

Claims 1 has been amended herein to even more explicitly recite flat wire with a cube texture or a strip with a cube texture as discussed with the Examiner during an October 6, 2009 that is discussed below. Moreover, as discussed with the Examiner, claim 1 has been amended to more explicitly recite the end portion of the claim and to clarify claim language.

Entry of the amendment after final rejection is appropriate because the amendment of the claims more explicitly recites the claims subject matter in conformance with the claim as examined in the Final Office Action. Accordingly, entry of the amendment after final rejection is respectfully requested.

Reconsideration of the rejections of record and allowance of the application in view of the following remarks are respectfully requested.

Statement of Interview

Applicants express appreciation for the courtesies extended by Examiner Bonk during an October 6, 2009 telephone interview with Applicants' representative Arnold Turk.

During the interview the claimed subject matter and differences over the prior art as argued in Applicants' previous response were discussed. The Examiner appeared to agree that there were differences, but contended that the claims recited alternative language, such as a flat wire or a strip with a cube texture, and this did not require that each of the flat wire and the strip have a cube texture. Applicants' representative indicated that this was the clear meaning of the claimed subject matter and was in conformance with Applicants' arguments in their response. It

was indicated that in view of the Examiner's remarks, the claims may be amended to even more explicitly recite the claimed subject matter.

Moreover, the Examiner indicated that he deemed that the end portion of claim 1 could be more explicitly recited, and Applicants' representative indicated that Applicants would consider amendment of the end portion of claim 1.

Response To Art Based Rejections

The following art based rejections are set forth in the Office Action.

(a) Claims 1, 2, 6 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2004/0003768 A1 to Goyal.

(b) Claims 5, 11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0003768 A1 to Goyal in view of U.S. Patent No. 6,024,080 to Hodsden.

(c) Claims 3, 4, 7, 8, 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0003768 A1 to Goyal in view of U.S. Patent No. 4,280,857 to Dameron, Jr. et al. (hereinafter "Dameron") and U.S. Patent No. 6,449,997 to Bertolini.

(d) Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0003768 A1 to Goyal in view of U.S. Patent No. 6,024,080 to Hodsden, U.S. Patent No. 4,280,857 to Dameron and U.S. Patent No. 6,449,997 to Bertolini.

Regarding the disclosures used in the rejections of record, it does not appear that any document teaches or suggests, as recited in Applicants' independent claim 1, a method for producing a metallic flat wire with a cube texture or a strip with a cube texture, comprising processing a material based on nickel, copper, gold, or silver into a wire having an essentially circular cross section by a cold drawing method with high-grade forming over multiple drawing

stages, achieving a total cross-sectional reduction $\varepsilon_g \geq 75\%$ or a logarithmic deformation $\phi_g \geq 1.4$, and then further processing the wire by further forming and annealing methods into a flat wire with a cube texture or a strip with a cube texture and having a width that can be adjusted in a defined manner, the defined width being determined and adjusted by the initial wire cross section of the wire having an essentially circular cross section and reduction of thickness in the subsequent forming steps.

The arguments as set forth in Applicants' previous response were set forth during the above-noted telephone interview, and the Examiner appeared to agree that the prior art used in the rejections of record did not teach or suggest each of the features recited in Applicants' claims, but appeared to be maintaining the rejections upon a reading of the claims as not including certain features, such as the cube texture. This reading of the claims should not be considered to be appropriate, and in any event is rendered moot by the present amendment. Accordingly, allowance of the application is respectfully requested.

Moreover, prior to discussion of the inadequacies of the rejections of record, Applicants note that the anticipation rejection improperly includes in the second paragraph thereof, i.e., the paragraph at the bottom of page 2 of the Final Office Action, reference to claims 6 and 12-15, 6," when only claims 1, 2 6 and 12 are stated to be anticipated in the statement of the rejection.

Clarification of the anticipation rejection, and withdrawal of the finality of the Office Action are therefore respectfully requested.

Regarding the merits of the rejections, Applicants again point out that the rejections contend that Goyal discloses each and every feature recited in Applicant's claims 1, 2, 6 and 12. However, **it does not appear that Goyal is starting with an essentially circular cross-section, and then changing this essentially circular cross-section to that of the tape disclosed in**

Goyal. For example, the **Examples of Goyal appear to reduce the thickness of a slab to a tape. There is not indication that “a slab” in Goyal includes an essentially circular cross section as recited in Applicants’ claim 1.**

The Examiner points to paragraph [0013] of Goya for a circular cross-section; however, the rejection does not point to any specific disclosure in this paragraph that pertains to a circular cross-section. Moreover, this portion of Goyal relates to rolling textures possibilities in FCC metals in the first sub-space of Euler Space, and not to cross-sectional shapes of the substrates. As noted above, the Examples of Goyal all appear to be directed to the reduction of a slab to a tape.

In the remarks portion of the Examiner’s Response to Arguments in the Final Office Action, the Examiner contends:

With regards to the “essentially circular cross section” limitation, the Examiner maintains that this limitation is an intermediate in the process and since the surrounding steps are met by the Goyal reference the material would inherently demonstrate this feature although it is not explicitly stated in the reference.

This assertion is not supported by any acceptable technical reasoning to establish in any manner that the limitations of Applicants’ claimed subject matter is **necessarily** present in Goyal. The Examiner is reminded that in order for inherency to be present the Examiner has the burden of showing that the result indicated by the Examiner is the necessary result, and not merely a possible result. In re Oelrich, 212 U.S.P.Q. 323 (CCPA 1981); Ex parte Keith et al., 154 U.S.P.Q. 320 (POBA 1966). For example, the fact that a prior art article may inherently have the characteristics of the claimed product is not sufficient. Ex parte Skinner, 2 U.S.P.Q.2d 1788 (BPAI 1986).

As the Board of Patent Appeals and Interferences states in Ex parte Levy, 17 U.S.P.Q.2d 1461, 1463:

However, the initial burden of establishing a prima facie basis to deny patentability to a claimed invention rests upon the examiner. In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984). In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976); Hansgirk v. Kemmer, 102 F.2d 212, 40 USPQ 665 (CCPA 1939). in order for inherency to be present it must be a necessary result, and not merely a possible results. Ex parte Keith and Turnquest, 154 U.S.P.Q. 320 (B.O.A. 1966).

Accordingly, the rejection must establish that Applicants' recited subject matter is necessarily present in Goyal, and the rejection is deficient in at least this regard.

Moreover, in contrast to the assertions in the rejections, Applicants submit that Goyal is directed to the production of a single crystal substrate and not, as asserted in the rejection, a metallic flat wire with a cube texture or strip with a cube texture.

Goyal discloses sharply biaxially textured metallic substrates, such as a single crystal, and a method for the production thereof which is based on the method of secondary recrystallization with respect to the thermal treatment. This approach should be seen in the context of single crystal growth in the solid state, in which the stipulated nuclei are stimulated to the preferred growth at temperatures above the primary recrystallization and wherein temperature gradients are also used for growth control. According to the prior art, the primary recrystallization was used to obtain a cube texture until the method according to Goyal.

The clear difference of Goyal to the previous approach according to the prior art via the primary recrystallization lies in the secondary recrystallization in addition to the higher

temperatures to be used with the thermal treatment above all in the specification of a crystallization nucleus which is thermally stimulated to growth, so that ultimately a single crystal substrate is produced. Claim 1 of Goyal is also formulated accordingly by reciting a method for forming single grained substrates, comprising the steps of providing a deformed metal substrate having a Cu-type texture; and annealing said deformed metal substrate to a temperature higher than a secondary recrystallization temperature of said metal substrate, but below said predetermined temperature, to form a single crystal substrate.

The method disclosed and claimed by Goyal is differentiated from the approaches for RABiTS production, which are carried out via the primary recrystallization, which is emphasized by Goyal. See, for example, paragraphs [0005] and [0006] of Goyal.

In contrast, according to the present invention, a wire produced by high-grade cold forming is processed by forming and annealing methods to form a flat wire with a cube texture or a strip with a cube texture with defined width. Such a method is clearly a primary recrystallization.

It is thus clear that the present invention has no relation to Goyal because a different recrystallization principle is involved and the present invention claims specific forming conditions and shapes of the material, which are capable of producing a cube texture.

Once again for clarification, the contents of Goyal and the present invention are compared below:

Goyal	Present invention
- providing a deformed metal substrate having a Cu-type texture	- material based on nickel, copper, gold, or silver, from which a wire is produced by high-grade forming with a total cross-sectional reduction $\epsilon_g \geq 75\%$ and a logarithmic deformation $\phi_g \geq 1.4$
	- further processing forming methods and
- annealing said deformed metal substrate to a temperature higher than a secondary recrystallization temperature of said metal substrate, but below said predetermined temperature, to form a single crystal substrate	- annealing methods into a flat wire or a strip with a cube texture and having a width that can be adjusted in a defined manner
	the defined width being adjusted by the wire cross-section and the degrees of forming of the further forming steps for the wire
- production of a metal single crystal substrate	- production of a metallic flat wire or a strip with a cube texture

Although Goyal discloses in principle that a wire can also be the substrate, no statements are made on the wire cross-section. Moreover, as noted above, in contrast to the assertions in the rejections, Applicants submit that Goyal is directed to the production of a single crystal substrate and not, as asserted in the rejection, a metallic flat wire with a cube texture or strip with a cube texture.

Additionally, it is not discernible from paragraphs [0024] and [0033] of Goyal that *several* forming steps are to be carried out. The paragraphs begin with “The ... step ...”, and it therefore appears that only one step disclosed. The Response to Arguments section of the Office Action refers to “each pass” in the Examples of Goyal, but does not relate this to the claimed subject matter.

Still further, the rejections, without any support, assert that the “marked deformation” according to paragraphs [0066] and [0067] of Goyal would mean a total cross-sectional change of $\geq 90\%$. Applicants submit that this cannot be discerned from these two paragraphs. In fact, it is stated that the degree of deformation is to be at least 60%. A *total* degree of deformation is not mentioned either, since according to Goyal no further deformation steps are to be carried out after the production of the substrate. Moreover, the 99% value indicated by the Examiner is merely indicated as an example of the use of the formula in paragraph [0067] of Goyal, and it does not appear to indicate that it is an actual example.

Still further, in paragraphs [0018] through [0021], contrary to the assertion in the rejections, no further deformation steps or temperature steps are given, but only the actual thermal treatment above the secondary recrystallization temperature and the application of epitaxial layers onto the substrate.

Accordingly, Goyal does not teach or suggest each of the features recited in Applicants’ claims whereby the rejections should be withdrawn.

None of Hodsden, Bertolini and Dameron overcomes the deficiencies of Goyal.

Hodsden is used in the rejections only for its disclosure of a cold drawing method carried out in respectively alternating drawing directions (reversibly). Accordingly, whether or not one

having ordinary skill in the art would have combined the disclosures of Goyal and Hodsden, Applicants' recited subject matter would not be at hand.

Bertolini describes a special process for wire drawing. This lies in carrying out the subsequent drawing stage with a wire-drawing die that has an opening angle of $>30^\circ$. The lubricant film is thereby removed which was previously applied as a layer. The rejection must establish why one having ordinary skill in the art would have combined the disclosures in the manner asserted in the rejection. In any event, whether or not one having ordinary skill in the art would have made the combination asserted in the rejections, Bertolini does not overcome the deficiencies of Goyal whereby Applicants' recited subject matter would not be at hand.

Dameron describes a special cold-drawing method in which the wire is continuously annealed in a furnace before the last shaping step. Again, the rejection must establish why one having ordinary skill in the art would have combined the disclosures in the manner asserted in the rejection. In any event, whether or not one having ordinary skill in the art would have made the combination asserted in the rejections, Dameron does not overcome the deficiencies of Goyal whereby Applicants' recited subject matter would not be at hand.

Applicants' claimed subject matter permits the production of flat wires or strips with cube texture starting from thick wires, which has hitherto been carried out only on the basis of rolled wide/flat products. The shaping texture formed during drawing surprisingly is no impediment to the development of the cube texture in the final annealing process. The necessity that has hitherto been presumed according to the prior art of a shaping texture that can be produced only by cold rolling, is circumvented with the recited method. The method makes it possible to use largely or even exclusively drawing machines for the production of substrates with cube texture.

Accordingly, the rejections of record should be withdrawn, and each of the pending claims should be indicated to be allowable.

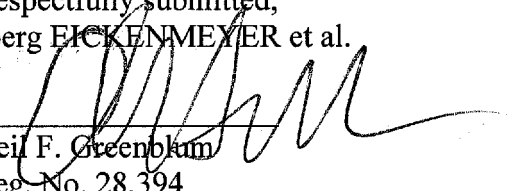
CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicant therefore respectfully requests that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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